

Applicant : Bruce B. Gamble et al.  
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a rotor assembly surrounded by the stator assembly and including:

at least one superconducting winding assembly positioned within a cryogenic region of the rotor assembly, the at least one superconducting winding assembly, in operation, generating a magnetic flux linking the stator assembly; and

a cantilevered member, mechanically coupled between the at least one superconducting winding assembly and the shaft, the cantilevered member extending between the non-cryogenic region and the cryogenic region of the rotor assembly.

the shaft extending across the rotor assembly.

**31. (Amended)** The rotating machine of claim 30 wherein the metal comprises Inconel.

**36. (Amended)** A rotor assembly configured to rotate within a stator assembly of a rotating machine having a shaft disposed within a non-cryogenic region of the rotor assembly, the shaft extending across the rotor assembly, the rotor assembly comprising:

at least one superconducting winding assembly positioned within a cryogenic region of the rotor assembly, the at least one superconducting winding assembly, in operation, generating a magnetic flux linking the stator assembly; and

means, mechanically coupled between the at least one superconducting winding assembly and the shaft, for transmitting torque to the shaft, the means for transmitting torque extending between the non-cryogenic region and cryogenic region of the rotor assembly, the means for transmitting torque to the shaft including a cantilevered member.--